

Purchasing Receipts

PO No	Supplier Item No	Line Item No	Rel. Terms	Purchased Item	Description	For Part No	Project ID	Equipment Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
PO001169	MES002-VC	1	1 Net 60	M17-4-H1150-R2.000	17-4 SS Round Bar 2.000 ^{mm} : MATERIAL: 17-4 PH CONDITION H1150 receive ft				12/10/16/2018	12		\$120116	Stock	10/18/2018	\$ 102.80 / ft	19	\$ 1,233.60	Metaux Solutions	
		2		M17-4-H900-R2.000	17-4 SS H900 Round Bar 2.000 ^{mm} : MATERIAL: 17-4 PH COND. H900 AS H900/R0.500 MATERIAL; 17-4 PH COND. H900 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SALVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft				36	36		\$120117	Stock	10/18/2018	\$ 115.50 / ft	19	\$ 4,158.00	Metaux Solutions	
		3		M17-4-B1.250X2.000	17-4 SS Bar 1.250 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGTH OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft				12	12		\$120118	Stock	10/18/2018	\$ 93.15 / ft	19	\$ 1,117.80	Metaux Solutions	
		4	1	M304S18GA	304/316 050 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 (316) OR ASME SA240				1	1		\$120218	Inactive	10/18/2018	\$ 93.15 / ft	19	\$ 93.15	Metaux Solutions	
		5		M6061T6B4.500X4.500	6061-T6 Aluminum bar 4.500 ^{mm} x 4.500 ^{mm} (CUT IN SECTION 6ft) : MATERIAL: 6061-T6/T651/T651/T62 ALUMINUM BAR PER QQ-A-228/8 OR AMS-QQ-A-228/8 OR AMS 4117/4128/4115/4116 OR QQ-A-2008 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				12	12		\$121736	Stock	10/25/2018	\$ 120.55 / ft	12	\$ 1,446.60	Metaux Solutions	
		6		M1018R1.750	M1018R1.750 : MATERIAL: AISI 1018-1025 ROUND BAR MIL-S-7097 OR ASTM A108					12		\$120119	Stock	10/18/2018	\$ 16.35 / ft	19	\$ 196.20	Metaux Solutions	

Diet

Page 11/6/2018 11:50 AM dad Tallis Andrew



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

**PURCHASE ORDER
PO041169**

Supplier:	MES002-VC Metaux Solutions 2625 boul Jacques-Cartier Est Longueuil QC J4N 1L7 Canada Phone: 800 558 8858 Fax: 514 633 8044	PO No:	PO041169
		PO Date:	9/27/18
		Due Date:	10/11/18
		Purchase Order Revision:	
		Revision Date:	
		Ship-To Contact:	Lavoie, Chantal Phone: clavoie@dartaero.com
Ship To:	1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200	Via:	Ground
		Pymt Terms:	Net 60
		Freight Terms:	
		Special Comments:	bid 29194

E-MAILED
SEP 27 2018

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1 ✓		M17-4-H1150-R2.000	SR21741150	17-4 SS Round Bar 2.000" : MATERIAL: 17-4 PH CONDITION H1150 receive ft	Firmed -		10/11/18	12 ft	0 ft	12 ft	\$102.80/ft	\$1,233.60
2 ✓		M17-4-H900-R2.000		17-4 SS H900 Round Bar 2.000" : M174PH-H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643 NOTE: PLEASE SHIP MATERIAL TO METCOR INC. 560 BOULV. ARTHUR SAUVE SAINT-EUSTACHE, QC J7R-5A8 450-473-1884 receive ft	Firmed -		10/11/18	36 ft	0 ft	36 ft	\$115.50/ft	\$4,158.00
3 ✓	AT	M17-4-B1.250X2.000	SF1142174	17-4 SS Bar 1.250 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGTH OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed -		10/11/18	12 ft	0 ft	12 ft	\$93.15/ft	\$1,117.80
4 ✓	AT	M304S18GA	SS182B4	304/316 .050 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240	Firmed -		10/11/18	128 sf	0 sf	128 sf	\$7.15/sf	\$915.20



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041169

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5 AT		M6061T6B4.500X4.500	ASQ412	6061-T6 Aluminubar 4.500" X 4.500" (CUT IN SECTION 6ft) : MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed -		10/11/18	12 ft	0 ft	12 ft	\$120.55/ft	\$1,446.60
Line Item Note: 2 PCS OF 6 FT												
6 AT		M1018R1.750	CR134	M1018R1.750 : MATERIAL: AISI 1018- 1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Firmed -		10/11/18	12 ft	0 ft	12 ft	\$16.35/ft	\$196.20
7 AT		MT-H13-R2.500	TR212H13	AISI H13 Tool Steel Round Bar : MATERIAL: AISI H13 TOOL STEEL ROUND BAR AISI H13	Firmed -		10/11/18	6 ft	0 ft	6 ft	\$60.08/33 ft	\$360.50

Grand Total: \$9,427.90

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/27/18 1:27 PM dart.lavoie.chantal

Bid

21/09/2018

29194

METAUX SOLUTIONS INC
 2625 BOUL JACQUES CARTIER EST
 LONGUEUIL, QUEBEC
 J4N 1L7 Tel.: 450 641-3330

Sales Rep. : JEROME PRIMEAU
Reference : CHANTAL
Expiration Date : 20/12/2018

Customer: 6323336

Ship To :

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Price	Total	Tx
***** FACTURER E-MAIL *****					
SR38174	SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N 17-4PH ROU .375 DIA 1 X 12' R/L HT; 17-4PH ROU 1.500 DIA COD. 1 X 12' R/L HT;	12	16.65	199.80	A
SR112174	17-4PH 2" DIA. COND. H1150 1 X 12' R/L HT;	12	68.40	820.80	A
SR21741150	17-4PH 2" DIA. COND. H1150 1 X 12' R/L HT;	<u>12</u>	<u>102.80</u>	1 233.60	A
SR2174	17-4PH ROU 2" DIA COND. H900 2 X 12' R/L HT; 10/12 JOURS	<u>24</u> <i>366+</i>	<u>115.50</u>	2 772.00	A
SF1142174	17-4PH FLAT 1.250 X 2.00 1 X 12' R/L HT;	<u>12</u>	<u>93.15</u>	1 117.80	A
SS182B4	304 SHEET .048 (18G) 4 X 4' X 8'	<u>128</u>	<u>7.15</u>	915.20	A
SF122124	304 PLA .500 X 2.500 1 X 12' R/L HT;	12	18.20	218.40	A
SR123	303 ROU .500 DIA 2 X 12' R/L	24	3.50	84.00	A

*** Continued on Next Page ***

Bid

21/09/2018

29194

METAUX SOLUTIONS INC
 2625 BOUL JACQUES CARTIER EST
 LONGUEUIL, QUEBEC
 J4N 1L7 Tel.: 450 641-3330

Sales Rep. : JEROME PRIMEAU
Reference : CHANTAL
Expiration Date : 20/12/2018

Customer: 6323336*Ship To :*

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Same

Tel.: 1 613 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty</i>	<i>Price</i>	<i>Total</i>	<i>Tx</i>
SR343	HT; 303 ROU 1.750 DIA 3 X 12' R/L	36	7.86	282.96	A
AF16	HT; ALU FLA 1.000 X 6.000 6061-T6 3 X 12'	36	30.87	1 111.32	A
AF112212	HT; ALU FLA 1.500 X 2.500 6061-T6 1 X 12'	12	19.35	232.20	A
ASQ2	HT; ALU SQU 2.000 6061-T6 1 X 12'	12	20.65	247.80	A
ASQ412	ALUM SQU 4-1/2" 6061-T6 1 X 12' <i>2 PCS of 4 ft</i>	12	120.55	1 446.60	A
CR134	CRS ROU 1.750 DIA 1018 1 X 12'	12	16.35	196.20	A
CR212	HT; CRS ROU 2.500 DIA 1018 1 X 12' SAME PRICE PER FOOT FOR 6'	12	22.45	269.40	A
MR13441H	HT; 4140 HTSR ROU 1.750 DIA 1 X 12' SAME PRICE PER FOOT FOR 6'	12	19.95	239.40	A
TR212H13	HT; H-13 TFA TO FIN 2.500 RD 6 ft +	103	3.50	360.50	A
				<i>60.68333</i>	

*** *Continued on Next Page* ***

Bid

21/09/2018

29194

METAUX SOLUTIONS INC
 2625 BOUL JACQUES CARTIER EST
 LONGUEUIL, QUEBEC
 J4N 1L7 *Tel.:* 450 641-3330

Sales Rep. : JEROME PRIMEAU
Reference : CHANTAL
Expiration Date : 20/12/2018

Customer: 6323336*Ship To :*

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Same

Tel.: 1 613 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty</i>	<i>Price</i>	<i>Total</i>	<i>Tx</i>
HR5	1 X 72" HT; FBS ROU 5.000 DIA 1018/1020 1 X 48" HT;	4	115.90	463.60	A
5/7 JOURS POUR LES RESTE					

A) Regist :

<i>Subtotal</i>	12 211.58
HST :	1 587.51
<i>Total :</i>	13 799.09

Shipping Order

17/10/2018

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 *Tel.* : 450 641-3330

Order : 138483
Reference : 41169
Bid : 29194
Ship : PICK UP / PICK UP

Customer: 6323336

Ship To

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
SR1121741150	17-4PH 2 DIA. COND. H1150 1 X 12.75' ✓ HT430303 AT	12.75	12.75	0
SR2174	17-4PH ROU 2" DIA COND. H900 3 X 12' R/L ***** ✓ HT9SJ0048-G10 AT	36	36	0
SF1142174	17-4PH FLAT 1.250 X 2.00 1 X 13' ✓ HT42282026 AT	13	13	0
SS182B4	304 SHEET .048 (18G) 4 X 4' X 8' ***** HT905E AT	128	128	0
ASQ412	ALUM SQU 4-1/2" 6061-T6 2 X 6' ***** HT;	12	0	12
CR134	CRS ROU 1.750 DIA 1018 1 X 12' ✓ HTC131474 AT	12	12	0
TR212H13	H-13 TFA TO FIN 2.500 RD ✓	103	103	0

*** *Continued on Next Page* ***

Shipping Order

17/10/2018

METAUX SOLUTIONS INC
 2625 BOUL JACQUES CARTIER EST
 LONGUEUIL, QUEBEC
 J4N 1L7 Tel. : 450 641-3330

Order : 138483
 Reference : 41169
 Bid : 29194
 Ship : PICK UP / PICK UP

Customer: 6323336

Ship To

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivei	B/O Qty
	1 X 72"			
	HT:88169091192-48-1			
LIVRE	Wrong heat # Cart and not in state 88169091192			
JP				



Page : 2

Shipping : _____
 Package No : _____

Ref. : _____

Merchandise Received: _____

Shipping Order

06/11/2018

METAUX SOLUTIONS INC
1625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 Tel. : 450 641-3330

Order : 185699
Reference : 41169
Bid : 29194
Ship : PICK UP / PICK UP

Customer: 6323336

Ship To

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivei	B/O Qty
1 X 72"				
HT: 8816081192-48-1	HT: 8816081192-48-1		A1	
LIVRE		12.75	φ	
JP		3.6	φ	
		13	φ	
		12.8	φ	
		12	φ	
		10.3	φ	

Page : 2

Shipping : _____
 Package No : _____
 Merchandise Received: _____

Ref. : _____

CERTIFICATE OF TEST

CERTIFICAT D'ESAI

Page 01 of 02

Certification Date
5-OCT-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

45565-J

Invoice Number
T384522

PART NUMBER/NUMÉRO DE PIÈCE

510451

SOLD TO:	METAUX SOLUTIONS INC.	SHIP TO:	METAUX SOLUTIONS	(RIVE-SUD)
VENDU À:		EXPÉDIÉ À:		
	2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1L7		2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1	

Description: 17-4 CF BAR COND H1150
2 RD X 12' R/L
HEAT: 430303

ASTM A564
Line Total: 136 LB

ITEM: 510451

Specifications:

AMS 5643 V	ASTM A564 T630 13E1	ASME SA564 T630 13
COND H 1150	ASTM A 370 17	AISI 630
EN 10204 3.1	ASTM A484 18	AMS H 6875 B
ASTM E10 15A	ASTM E8 16A	AMS 2303 F
ASTM E340 15	ASTM E381-01 12	AMS 2315 G
EN 10204 3.1		

CHEMICAL ANALYSIS

C	MN	P	S	SI	CR	NI	MO
0.032	0.41	0.025	0.001	0.38	15.14	4.68	0.17
CU	N	CB	TA	CBTA			
3.40	0.045	0.278	0.002	0.28			

RCPT: R541757

COUNTRY OF ORIGIN : ITALY

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR PSI	ULT TEN PSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
COND H1150	131200.0	143700.0	19.1	63.8	300

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcris du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST CERTIFICAT D'ESAIS

Page 02 of 02

Certification Date
5-OCT-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

45565-J

PART NUMBER/NUMÉRO DE PIÈCE

510451

Invoice Number
T384522

SOLD TO: METAUX SOLUTIONS INC.	SHIP TO: METAUX SOLUTIONS	(RIVE-SUD)
VENDU À:	EXPÉDIÉ À:	
2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1L7	2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1	

Description: 17-4 CF BAR COND H1150
2 RD X 12' R/L
HEAT: 430303
ITEM: 510451

ASTM A564
Line Total: 136 LB

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

MACRO: OK

MICRO1:

MICRO CONTAINS NO MORE THAN 5% FERRITE

AMS NO :2301

SEVERITY :0.18

FREQUENCY:0.28

COMMENTS

melted in italy

mfg in usa

chemical testing to one or more of the listed astm methods:
e1019-11, e1086-14

material conforms to listed specifications. dfars compliant.

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

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Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

SPECIFICATION CONTROL DRAWING

1	2	3	4	5	6	7	8	D	C	B	A																																			
<p>PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR GRAN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE</p>																																														
<p>SPECIFICATION: AMS 5643 OR ASTM A564 PART NUMBER: M17-4-HHHHH R XXX WHERE: HHHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW) COND O.D. XXX = DIAMETER (IN INCHES)</p>																																														
<p>EXAMPLES:</p> <p>17-4 PH / S17400 / TYPE 630 SS ROUND BAR GRAN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE</p> <p>SPECIFICATION: AMS 5643 OR ASTM A564 PART NUMBER: M17-4-HHHHH R XXX WHERE: HHHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW) COND O.D. XXX = DIAMETER (IN INCHES)</p>																																														
<p>MATERIAL CONDITION TABLE:</p> <table border="1"> <thead> <tr> <th>CODE</th> <th>CONDITION</th> <th>MIN YIELD STRENGTH (KSI)</th> <th>MIN ULTIMATE TENSILE STRENGTH (KSI)</th> </tr> </thead> <tbody> <tr> <td>(OMITTED)</td> <td>NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)</td> <td>100</td> <td>150</td> </tr> <tr> <td>H900</td> <td>H900</td> <td>170</td> <td>190</td> </tr> <tr> <td>H925</td> <td>H925</td> <td>155</td> <td>170</td> </tr> <tr> <td>H1025</td> <td>H1025</td> <td>145</td> <td>155</td> </tr> <tr> <td>H1075</td> <td>H1075</td> <td>125</td> <td>145</td> </tr> <tr> <td>H1100</td> <td>H1100</td> <td>115</td> <td>140</td> </tr> <tr> <td>H1150</td> <td>H1150</td> <td>105</td> <td>135</td> </tr> <tr> <td>COND A</td> <td>CONDITION A (SOLUTION TREATED)</td> <td></td> <td></td> </tr> </tbody> </table>											CODE	CONDITION	MIN YIELD STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)	(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150	H900	H900	170	190	H925	H925	155	170	H1025	H1025	145	155	H1075	H1075	125	145	H1100	H1100	115	140	H1150	H1150	105	135	COND A	CONDITION A (SOLUTION TREATED)		
CODE	CONDITION	MIN YIELD STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)																																											
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150																																											
H900	H900	170	190																																											
H925	H925	155	170																																											
H1025	H1025	145	155																																											
H1075	H1075	125	145																																											
H1100	H1100	115	140																																											
H1150	H1150	105	135																																											
COND A	CONDITION A (SOLUTION TREATED)																																													
<p>NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED</p>																																														
<p>APPROVED RELEASED E&I 17-728 2017-10-31 BY</p>																																														
<p>PART 4.00" DIAMETER BAR MINUTS = 150 KSI, MIN YTS = 100 KSI M17-4-R4.000 M17-4-H900-R2.500 M17-4-H1025-R3.250 M17-4-CODNA-R0.750</p>																																														
<p>DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA REV. C SHEET 1 OF 1 SCALES NTS DATE</p>																																														
<p>COMPOSITE © 2005 BY DART AEROSPACE LTD 100-120-140-160-180-200-220-240-260-280-300-320-340-360-380-400-420-440-460-480-500-520-540-560-580-600-620-640-660-680-700-720-740-760-780-800-820-840-860-880-900-920-940-960-980-1000-1020-1040-1060-1080-1100-1120-1140-1160-1180-1200-1220-1240-1260-1280-1300-1320-1340-1360-1380-1400-1420-1440-1460-1480-1500-1520-1540-1560-1580-1600-1620-1640-1660-1680-1700-1720-1740-1760-1780-1800-1820-1840-1860-1880-1900-1920-1940-1960-1980-2000-2020-2040-2060-2080-2100-2120-2140-2160-2180-2200-2220-2240-2260-2280-2300-2320-2340-2360-2380-2400-2420-2440-2460-2480-2500-2520-2540-2560-2580-2600-2620-2640-2660-2680-2700-2720-2740-2760-2780-2800-2820-2840-2860-2880-2900-2920-2940-2960-2980-3000-3020-3040-3060-3080-3100-3120-3140-3160-3180-3200-3220-3240-3260-3280-3300-3320-3340-3360-3380-3400-3420-3440-3460-3480-3500-3520-3540-3560-3580-3600-3620-3640-3660-3680-3700-3720-3740-3760-3780-3800-3820-3840-3860-3880-3900-3920-3940-3960-3980-4000-4020-4040-4060-4080-4100-4120-4140-4160-4180-4200-4220-4240-4260-4280-4300-4320-4340-4360-4380-4400-4420-4440-4460-4480-4500-4520-4540-4560-4580-4600-4620-4640-4660-4680-4700-4720-4740-4760-4780-4800-4820-4840-4860-4880-4900-4920-4940-4960-4980-5000-5020-5040-5060-5080-5100-5120-5140-5160-5180-5200-5220-5240-5260-5280-5300-5320-5340-5360-5380-5400-5420-5440-5460-5480-5500-5520-5540-5560-5580-5600-5620-5640-5660-5680-5700-5720-5740-5760-5780-5800-5820-5840-5860-5880-5900-5920-5940-5960-5980-6000-6020-6040-6060-6080-6100-6120-6140-6160-6180-6200-6220-6240-6260-6280-6300-6320-6340-6360-6380-6400-6420-6440-6460-6480-6500-6520-6540-6560-6580-6600-6620-6640-6660-6680-6700-6720-6740-6760-6780-6800-6820-6840-6860-6880-6900-6920-6940-6960-6980-7000-7020-7040-7060-7080-7100-7120-7140-7160-7180-7200-7220-7240-7260-7280-7300-7320-7340-7360-7380-7400-7420-7440-7460-7480-7500-7520-7540-7560-7580-7600-7620-7640-7660-7680-7700-7720-7740-7760-7780-7800-7820-7840-7860-7880-7900-7920-7940-7960-7980-8000-8020-8040-8060-8080-8100-8120-8140-8160-8180-8200-8220-8240-8260-8280-8300-8320-8340-8360-8380-8400-8420-8440-8460-8480-8500-8520-8540-8560-8580-8600-8620-8640-8660-8680-8700-8720-8740-8760-8780-8800-8820-8840-8860-8880-8900-8920-8940-8960-8980-9000-9020-9040-9060-9080-9100-9120-9140-9160-9180-9200-9220-9240-9260-9280-9300-9320-9340-9360-9380-9400-9420-9440-9460-9480-9500-9520-9540-9560-9580-9600-9620-9640-9660-9680-9700-9720-9740-9760-9780-9800-9820-9840-9860-9880-9900-9920-9940-9960-9980-10000-10020-10040-10060-10080-10100-10120-10140-10160-10180-10200-10220-10240-10260-10280-10300-10320-10340-10360-10380-10400-10420-10440-10460-10480-10500-10520-10540-10560-10580-10600-10620-10640-10660-10680-10700-10720-10740-10760-10780-10800-10820-10840-10860-10880-10900-10920-10940-10960-10980-11000-11020-11040-11060-11080-11100-11120-11140-11160-11180-11200-11220-11240-11260-11280-11300-11320-11340-11360-11380-11400-11420-11440-11460-11480-11500-11520-11540-11560-11580-11600-11620-11640-11660-11680-11700-11720-11740-11760-11780-11800-11820-11840-11860-11880-11900-11920-11940-11960-11980-12000-12020-12040-12060-12080-12100-12120-12140-12160-12180-12200-12220-12240-12260-12280-12300-12320-12340-12360-12380-12400-12420-12440-12460-12480-12500-12520-12540-12560-12580-12600-12620-12640-12660-12680-12700-12720-12740-12760-12780-12800-12820-12840-12860-12880-12900-12920-12940-12960-12980-13000-13020-13040-13060-13080-13100-13120-13140-13160-13180-13200-13220-13240-13260-13280-13300-13320-13340-13360-13380-13400-13420-13440-13460-13480-13500-13520-13540-13560-13580-13600-13620-13640-13660-13680-13700-13720-13740-13760-13780-13800-13820-13840-13860-13880-13900-13920-13940-13960-13980-14000-14020-14040-14060-14080-14100-14120-14140-14160-14180-14200-14220-14240-14260-14280-14300-14320-14340-14360-14380-14400-14420-14440-14460-14480-14500-14520-14540-14560-14580-14600-14620-14640-14660-14680-14700-14720-14740-14760-14780-14800-14820-14840-14860-14880-14900-14920-14940-14960-14980-15000-15020-15040-15060-15080-15100-15120-15140-15160-15180-15200-15220-15240-15260-15280-15300-15320-15340-15360-15380-15400-15420-15440-15460-15480-15500-15520-15540-15560-15580-15600-15620-15640-15660-15680-15700-15720-15740-15760-15780-15800-15820-15840-15860-15880-15900-15920-15940-15960-15980-16000-16020-16040-16060-16080-16100-16120-16140-16160-16180-16200-16220-16240-16260-16280-16300-16320-16340-16360-16380-16400-16420-16440-16460-16480-16500-16520-16540-16560-16580-16600-16620-16640-16660-16680-16700-16720-16740-16760-16780-16800-16820-16840-16860-16880-16900-16920-16940-16960-16980-17000-17020-17040-17060-17080-17100-17120-17140-17160-17180-17200-17220-17240-17260-17280-17300-17320-17340-17360-17380-17400-17420-17440-17460-17480-17500-17520-17540-17560-17580-17600-17620-17640-17660-17680-17700-17720-17740-17760-17780-17800-17820-17840-17860-17880-17900-17920-17940-17960-17980-18000-18020-18040-18060-18080-18100-18120-18140-18160-18180-18200-18220-18240-18260-18280-18300-18320-18340-18360-18380-18400-18420-18440-18460-18480-18500-18520-18540-18560-18580-18600-18620-18640-18660-18680-18700-18720-18740-18760-18780-18800-18820-18840-18860-18880-18900-18920-18940-18960-18980-19000-19020-19040-19060-19080-19100-19120-19140-19160-19180-19200-19220-19240-19260-19280-19300-19320-19340-19360-19380-19400-19420-19440-19460-19480-19500-19520-19540-19560-19580-19600-19620-19640-19660-19680-19700-19720-19740-19760-19780-19800-19820-19840-19860-19880-19900-19920-19940-19960-19980-20000-20020-20040-20060-20080-20100-20120-20140-20160-20180-20200-20220-20240-20260-20280-20300-20320-20340-20360-20380-20400-20420-20440-20460-20480-20500-20520-20540-20560-20580-20600-20620-20640-20660-20680-20700-20720-20740-20760-20780-20800-20820-20840-20860-20880-20900-20920-20940-20960-20980-21000-21020-21040-21060-21080-21100-21120-21140-21160-21180-21200-21220-21240-21260-21280-21300-21320-21340-21360-21380-21400-21420-21440-21460-21480-21500-21520-21540-21560-21580-21600-21620-21640-21660-21680-21700-21720-21740-21760-21780-21800-21820-21840-21860-21880-21900-21920-21940-21960-21980-22000-22020-22040-22060-22080-22100-22120-22140-22160-22180-22200-22220-22240-22260-22280-22300-22320-22340-22360-22380-22400-22420-22440-22460-22480-22500-22520-22540-22560-22580-22600-22620-22640-22660-22680-22700-22720-22740-22760-22780-22800-22820-22840-22860-22880-22900-22920-22940-22960-22980-23000-23020-23040-23060-23080-23100-23120-23140-23160-23180-23200-23220-23240-23260-23280-23300-23320-23340-23360-23380-23400-23420-23440-23460-23480-23500-23520-23540-23560-23580-23600-23620-23640-23660-23680-23700-23720-23740-23760-23780-23800-23820-23840-23860-23880-23900-23920-23940-23960-23980-24000-24020-24040-24060-24080-24100-24120-24140-24160-24180-24200-24220-24240-24260-24280-24300-24320-24340-24360-24380-24400-24420-24440-24460-24480-24500-24520-24540-24560-24580-24600-24620-24640-24660-24680-24700-24720-24740-24760-24780-24800-24820-24840-24860-24880-24900-24920-24940-24960-24980-25000-25020-25040-25060-25080-25100-25120-25140-25160-25180-25200-25220-25240-25260-25280-25300-25320-25340-25360-25380-25400-25420-25440-25460-25480-25500-25520-25540-25560-25580-25600-25620-25640-25660-25680-25700-25720-25740-25760-25780-25800-25820-25840-25860-25880-25900-25920-25940-25960-25980-26000-26020-26040-26060-26080-26100-26120-26140-26160-26180-26200-26220-26240-26260-26280-26300-26320-26340-26360-26380-26400-26420-26440-26460-26480-26500-26520-26540-26560-26580-26600-26620-26640-26660-26680-26700-26720-26740-26760-26780-26800-26820-26840-26860-26880-26900-26920-26940-26960-26980-27000-27020-27040-27060-27080-27100-27120-27140-27160-27180-27200-27220-27240-27260-27280-27300-27320-27340-27360-27380-27400-27420-27440-27460-27480-27500-27520-27540-27560-27580-27600-27620-27640-27660-27680-27700-27720-27740-27760-27780-27800-27820-27840-27860-27880-27900-27920-27940-27960-27980-28000-28020-28040-28060-28080-28100-28120-28140-28160-28180-28200-28220-28240-28260-28280-28300-28320-28340-28360-28380-28400-28420-28440-28460-28480-28500-28520-28540-28560-28580-28600-28620-28640-28660-28680-28700-28720-28740-28760-28780-28800-28820-28840-28860-28880-28900-28920-28940-28960-28980-29000-29020-29040-29060-29080-29100-29120-29140-29160-29180-29200-29220-29240-29260-29280-29300-29320-29340-29360-29380-29400-29420-29440-29460-29480-29500-29520-29540-29560-29580-29600-29620-29640-29660-29680-29700-29720-29740-29760-29780-29800-29820-29840-29860-29880-29900-29920-29940-29960-29980-30000-30020-30040-30060-30080-30100-30120-30140-30160-30180-30200-30220-30240-30260-30280-30300-30320-30340-30360-30380-30400-30420-30440-30460-30480-30500-30520-30540-30560-30580-30600-30620-30640-30660-30680-30700-30720-30740-30760-30780-30800-30820-30840-30860-30880-30900-30920-30940-30960-30980-31000-31020-31040-31060-31080-31100-31120-31140-31160-31180-31200-31220-31240-31260-31280-31300-31320-31340-31360-31380-31400-31420-31440-31460-31480-31500-31520-31540-31560-31580-31600-31620-31640-31660-31680-31700-31720-31740-31760-31780-31800-31820-31840-31860-31880-31900-31920-31940-31960-31980-32000-32020-32040-32060-32080-32100-32120-32140-32160-32180-32200-32220-32240-32260-32280-32300-32320-32340-32360-32380-32400-32420-32440-32460-32480-32500-32520-32540-32560-32580-32600-32620-32640-32660-32680-32700-32720-32740-32760-32780-32800-32820-32840-32860-32880-32900-32920-32940-32960-32980-33000-33020-33040-33060-33080-33100-33120-33140-33160-33180-33200-33220-33240-33260-33280-33300-33320-33340-33360-33380-33400-33420-33440-33460-33480-33500-33520-33540-33560-33580-33600-33620-33640-33660-33680-33700-33720-33740-33760-33780-33800-33820-33840-33860-33880-33900-33920-33940-33960-33980-34000-34020-34040-34060-34080-34100-34120-34140-34160-34180-34200-34220-34240-34260-34280-34300-34320-34340-34360-34380-34400-34420-34440-34460-34480-34500-34520-34540-34560-34580-34600-34620-34640-34660-34680-34700-34720-34740-34760-34780-34800-34820-34840-34860-34880-34900-34920-34940-34960-34980-35000-35020-35040-35060-35080-35100-35120-3</p>																																														

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H1150-R2.00
 DATE: 10/10/22

PO / BATCH NO.: P0041164/S120116

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12.75 ft
 QUANTITY INSPECTED: 12.75 ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.000"
 THICKNESS RECEIVED: 2.000"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	N	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	<i>AS7M AS64</i>
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	<i>PT. 480303</i>
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>Ar</u>	SIGNED OFF BY: _____
DATE: <u>10/10/22</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



GLORIA MATERIAL TECHNOLOGY CORP.
INSPECTION CERTIFICATE

Vendor: Eudality PAC Metals Ltd.
 Order No.: 2018000733-5
 File No.: 2018002676-A
 Grade: 17-4 ANN
 Size: 2'
 Heat-Lot No.: 0810048-G10
 Condition: HR-Solution Annealed-Ground

P.O.No.: P006705
 Date: 06/19/2018
 Weight: 1247KG 2749.16LB
 P'cs: 20

Chemical Composition (wt%)						
C	Si	Mn	P	S	Ni	Cr
Min.					3.00	15.00
Max.	0.8%	1.00	1.00	0.040	5.00	17.50
Result	0.8	0.37	0.58	0.019	4.73	15.31
Mo	Cu	Nb+Ta	Nb			
Min.	3.00	0.15	5C			
Max.	0.50	5.00	0.45	0.45		
Result	0.1	3.34	0.25	0.24		

Mechanical Properties Spec.

	Hardness	Grain Size	Delta-Ferrite
	ASTM E112	ANS 2315	
Spec. Min.	1/2R	T	L
Spec. Max.	303HBW		5%
Result	301HBW	6	0.3%

1000 Hardness (Ave)

	1/2R L
Spec. Min.	40HRC
Spec. Max.	47HRC
Result	43HRC

Macro Etching

	MACRO ETCH	MACRO ETCH
	ASTM B340	ASTM B340
	T	
Spec.		
Result	OK	OK



New Thread
Material Testing Laboratory
Non-destructive Testing

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OHAS, and Nadcap. We hereby cert to that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. Inspection Certificate comply with EW 10304 S.I.

台灣台南市新營區新中路35號/NO.35, HSIN CHUNG RD., HSIN YING, TAINAN, TAIWAN
TEL: 886-6-6520031/FAX: 886-6-6230877
http://www.gmtc.com.tw

Mark Wang
Quality Manager

Page 1 of 3



GLORIA MATERIAL TECHNOLOGY CORP.
INSPECTION CERTIFICATE

Messrs: Fidelity PAC Metals Ltd.
Order No.: 18000733-5
File No.: 18002676-A
Grade: 17-4 ANN
Size: 2"
Heat-Lot No: 9SJ0048-G10
Condition: HR-Solution Annealed-Ground

P.O.No.: P006705
Date: 06/19/2018
Weight: 1247KG 2749.16LB
P'cs: 20

Tensile Test		Test Condition(A)	Tensile Strength(Rm)	Yield Strength(0.2% Rp)	Reduction of Area(Z)
Unit	%	1/2L (Ave)	1/2R L (Ave)	1/2R L (Ave)	1/2R L (Ave)
Min.	10		180	170	40
Max.					
Result	14		204	180	48

Non-Metallic Inclusions :AMS 2303

Severity Frequency

Score	
Max.	
Result	0 0

REDUCTION RATE: Min 4.0:1

Specification:

- ASTM A564/A564M-13.
- ASME SA533 (2013).
- AMS 5643J
- ASTM A484/A484M-16.
- AMS 2303
- AMS 2315
- EN 10201 3.1.
- FIDELITY 17-4PH ROUND BAR REVISION 03/15/13

Remark:

- MANUFACTURING PROCESS: EAF+LHP+VOD, FORGED OR HOT ROLLED.
- SOLUTION TREATMENT: 1800 +/- 25 DEGREE F FOR 30 MIN/INCH (MINIMUM OF 1/2 HOUR), FAST COOLING TO BELOW 80 DEGREE F.
- MECHANICAL PROPERTIES TESTED AS PER H900 CONDITION.
- MATERIAL IS FREE FROM KNOWN CONTACT WITH MERCURY AND RADIUM.



Hot Tension
Material Testing Laboratory
Manufacturing Testing

Mara Wang
Quality Manager

Page 2 of 3

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OHSAS, and NADCAP. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirements of the above material specification. Inspection Certificate comply with EN 10204 3.1.

TEC: 86-6-6520031 / FAX: 886-6-6230877
E-mail: gloria@gloria.com.tw



GLORIA MATERIAL TECHNOLOGY CORP.
INSPECTION CERTIFICATE

GMTC

Messrs: Fidelity PAC Metals Ltd.

Order No.: GL18000733-5

File No.: GL18002676-A

Grade: 17-4 ANN

Size: 2"

Heat-Lot No.: 9SJ0048-G10

Condition: HR-Solution Annealed-Ground

P.O.No.: P008705

Date: 06/19/2018

Weight: 1247KG 2749.16LB

P'cs: 20

5. MATERIAL IS FREE FROM WELDS OR WELDING REPAIRS.
6. MATERIAL IS FREE FROM RESIDUAL RADIOACTIVITY.
7. NO PRODUCTS THAT CONTAIN OR WERE MADE WITH ODC'S.
8. ULTRASONIC TEST IS ACCEPTABLE PER ASTM A388.
9. THE MATERIAL IS THE SAME AS AISI 830.
10. COUNTRY OF ORIGIN: TAIWAN.



Non-Destructive
Material Testing Laboratory
Measurement Testing

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OHAS, and NADCAP. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. Inspection Certificate comply with EK 10204 S.1

台灣台南市新營區新中路35號/NO.35, HSINCHUNG RD., HSIN YING, TAINAN, TAIWAN
TEL: 886-6-6520031 / FAX: 886-6-6230877
<http://www.gmtc.com.tw>

Maria Wang
Quality Manager
Maria Wang

Page 3 of 3

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité

Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
331080	1

CLIENT / customer 780

METAUX SOLUTIONS

2825 BOUL. JACQUES-CARTIER EST

LONGUEUIL

QC J4B 6G6

LIVRÉ À / shipped to:

METAUX SOLUTIONS

2825 BOUL. JACQUES-CARTIER EST

LONGUEUIL

QC J4B 6G6

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
45567	N/A	17-4PH		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

AGE HARDEN

CONDITION H 900°

XIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results

HARDNESS 40 - 47 HRC 3 46 - 47 HRC

(907)

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description	
3	400	PIECES (3) PIECES 1 NIL	16/10/18

COMMENTAIRES / comments

APPROUVÉ par / Approved by:

Sousat



DATE: 2018-10-17

APPROUVE
AC

SPECIFICATION CONTROL DRAWING

1	2	3	4	5	6	7	8	9																																				
D	C	C	C	C	C	C	C	C																																				
PURCHASE MATERIAL 17-4 PH / S17400 / TYPE 630 SS ROUND BAR <small>GRAN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE</small>																																												
SPECIFICATION: AMS 5643 OR ASTM A564 PART NUMBER: M17-4- HHHHH- R X-XXX COND O.D. WHERE: HHHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW) <small>X-XXX = DIAMETER (IN INCHES)</small>																																												
Material Condition Table:																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>CODE</th> <th>CONDITION</th> <th>MIN YIELD STRENGTH (KSI)</th> <th>MIN ULTIMATE TENSILE STRENGTH (KSI)</th> </tr> </thead> <tbody> <tr> <td>(OMITTED)</td> <td>NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)</td> <td>100</td> <td>150</td> </tr> <tr> <td>H900</td> <td>H900</td> <td>170</td> <td>190</td> </tr> <tr> <td>H925</td> <td>H925</td> <td>155</td> <td>170</td> </tr> <tr> <td>H1025</td> <td>H1025</td> <td>145</td> <td>155</td> </tr> <tr> <td>H1075</td> <td>H1075</td> <td>125</td> <td>145</td> </tr> <tr> <td>H1100</td> <td>H1100</td> <td>115</td> <td>140</td> </tr> <tr> <td>H1150</td> <td>H1150</td> <td>105</td> <td>135</td> </tr> <tr> <td>COND A</td> <td>CONDITION A (SOLUTION TREATED)</td> <td></td> <td></td> </tr> </tbody> </table>									CODE	CONDITION	MIN YIELD STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)	(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150	H900	H900	170	190	H925	H925	155	170	H1025	H1025	145	155	H1075	H1075	125	145	H1100	H1100	115	140	H1150	H1150	105	135	COND A	CONDITION A (SOLUTION TREATED)		
CODE	CONDITION	MIN YIELD STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)																																									
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150																																									
H900	H900	170	190																																									
H925	H925	155	170																																									
H1025	H1025	145	155																																									
H1075	H1075	125	145																																									
H1100	H1100	115	140																																									
H1150	H1150	105	135																																									
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EXAMPLES:																																												
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APPROVED DATE 17.09.14																																												
RELEASED DATE 2017-10-31																																												
EX-17-728																																												
DART AEROSPACE LTD <small>HAWKESBURY, ONTARIO, CANADA</small> <small>REV. C</small> <small>SHEET 1 OF 1</small> <small>SCALE NTS</small> <small>NTS</small>																																												
<small>© 2005 DART AEROSPACE LTD. ALL RIGHTS RESERVED. NO PART OF THIS DRAWING OR THE INFORMATION CONTAINED HEREIN MAY BE REPRODUCED, COPIED, OR TRANSFERRED, IN WHOLE OR IN PART, WITHOUT THE EXPRESS WRITTEN CONSENT OF DART AEROSPACE LTD.</small>																																												

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M174-4900-R2.000
 DATE: 18/10/22

PO / BATCH NO.: P0041169/5120117

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 36ft
 QUANTITY INSPECTED: 36ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.000"
 THICKNESS RECEIVED: 2.000"
 SHEET SIZE ORDERED: -
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> <input type="checkbox"/> (N)	
CORRECT FINISH	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> <input type="checkbox"/> (N)	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> <input type="checkbox"/> N	<i>ASTM A564</i>
CORRECT THICKNESS	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> <input type="checkbox"/> (N)	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	<i>HT: 95J004B-G10</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> <input type="checkbox"/> (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> <input type="checkbox"/> (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/22</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

CERTIFICATE OF TEST

CERTIFICAT D'ESAIIS

Page 01 of 02

Certification Date
5-OCT-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

45565-J

Invoice Number
T384523

PART NUMBER/NUMÉRO DE PIÈCE

511751

SOLD TO:	METAUX SOLUTIONS INC.	SHIP TO:	METAUX SOLUTIONS	(RIVE-SUD)
VENDU À:	EXPÉDIÉ À:			
	2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1L7		2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1	

Description: 17-4 HRAP BAR SOL ANN ASTM A564
1-1/4 X 2 FLAT X 12' R/L
HEAT: 42282026

Line Total: 110 LB

ITEM: 511751

Specifications:

AMS 5643 U
ASTM A484 16

ASTM A564 T630 13

ASME SA564 T630

CHEMICAL ANALYSIS

C	SI	MN	P	S	CR	NI	MO
0.026	0.3900	0.68	0.019	0.002	15.29	4.43	0.16
CO	CU	N	TI	NB	CBTA		
0.0360	3.1100	0.019	0.001	0.23	0.23		

RCPT: R483569

COUNTRY OF ORIGIN : GERMANY

MECHANICAL PROPERTIES

DESCRIPTION COND A	YLD STR	ULT TEN	%ELONG	%RED IN AREA	HARDNESS BHN 304
DESCRIPTION DEV: H900 L	YLD STR KSI 184.0	ULT TEN KSI 201.0	%ELONG IN 02 IN 12.1	%RED IN AREA 57.1	HARDNESS BHN 409

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcris du certificat d'essai du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST CERTIFICAT D'ESAI

Page 02 of 02

Certification Date
5-OCT-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

45565-J

Invoice Number
T384523

PART NUMBER/NUMÉRO DE PIÈCE

511751

SOLD TO:	METAUX SOLUTIONS INC.	SHIP TO:	METAUX SOLUTIONS (RIVE-SUD)
VENDU À:		EXPÉDIÉ À:	
	2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1L7		2625 BOUL JACQUES CARTIER EST LONGUEUIL QC J4N 1

Description: 17-4 HRAP BAR SOL ANN ASTM A564
1-1/4 X 2 FLAT X 12' R/L

Line Total: 110 LB

HEAT: 42282026

ITEM: 511751

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

THERMAL TREATMENT: OK

SOL ANN 1900 DEG F FOR 6 HRS

MACRO: OK

MICRO1: OK

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcris du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

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JOANNE DESPRES



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 174 TH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: PART NUMBER:

MATERIAL CONDITION TABLE

CODE (OMITTED)	CONDITION	MIN YIELD STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H800	H900	170	190
H825	H925	150	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDITION A ISOLATION TREATED			COND A

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

5

PART NUMBER		PART NUMBER	
4.000" DIAMETER BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI		M17-4-R4.000	
2.500" DIAMETER BAR H900 CONDITION		M17-4-H900-R2.500	
3.250" DIAMETER BAR H1025 CONDITION		M17-4-H1025-R3.250	
0.750" DIAMETER BAR A CONDITION		M17-4-CONDA-R0.750	
DRAWN BY: [Signature]			
APPROVED BY: [Signature]			
DATE: 10-31-2017			
EXAMPLES:			

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-B1 250x2.00
 DATE: 18/10/22

PO / BATCH NO.: P0041164/5120118

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 13.04
 QUANTITY INSPECTED: 13.04
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.250"
 THICKNESS RECEIVED: 1.250"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> <input type="radio"/> N	<i>ASTM A564</i>
CORRECT THICKNESS	<input checked="" type="radio"/> <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> <input type="radio"/> N	<i>HT. 42282026</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>A1</u>	SIGNED OFF BY: _____
DATE: <u>18/10/22</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 434778 4 Matl 20: Customer: 007060 008

Year Order: D97157

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED. USE: 30400/30403
ASME SA240/17, A369/16b, A666/15, ASME SA240/17, SA480/17, SA566/17
CRAH ONLY ON FOLLOWING ASME: A276/17, A479/17, A484/16, A312/16
ANSI 551M/551J 300K, MTI-5059D AND3 (X CRH MEAS): MTI-4043B
MTI: ME0175/15D 15156-3:2009 A, ME0103/07/008766D-A X MAG PERIOD
MTI: SOLVENT ANNEAL TEMP 1900F, WATER QUENCHED

NAS Order: DS 0014902 07

REMARKS:

Matl 1 is Free of Harmful Contamination. No weld repairs.
EN 10204/2004 3.1: Rols 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: EAF, AEM, & Crmt. Casting
Product Mfg. by a Quality Mfg. Sys. in Conif. W/ISO 9001
Submitted & Manufactured in the USA. Matl 1 is DFM Compliant

Corrosion: ASTM 2362/15, 100% Sand-OK

Date: 8/06/2018 Page: 1

Steel: 304/304L

Finish: 2B

Product Id	Coil #	Steel #	Steel & Thickness	Width	Weight	Length	Mark	Pieces Commodity Code
059052 D	059052 D	.0480	.04.0000	10,370	COIL		3	1

CHEMICAL ANALYSIS

HEMF	CN	C %	Cr %	CO %	NH %	NO %	N %	NI %	P %	S %	Mark
059052	DS	.0178	18.0445	.3605	1.7675	.2055	.0689	.0220	.0330	.0010	

SI %

-2730

MECHANICAL PROPERTIES

Product Id#	Coil #	1/4	1/4	1/4	1/4	20C	20C	20C	20C	20C	Hard	Hard	Hard
059052 D	059052 D	PZ	PZ	PZ	PZ	97-13	49-31	55-92	57-00	88-50			

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Sgr.

KRIS LARK

8/06/2018

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 303/316 SS SHEET
ANNEXED

SPECIFICATION:
MIL-S-5069
OR AMS 5513 (304)
OR AMS 5223 (316)
OR ASTM A203
OR ASME SA220

FINISH:

FINISH	DART M NUMBER IDENTIFIER
UNPOLISHED No. 1	1P
UNPOLISHED No. 2D	2D
UNPOLISHED No. 2B	NONE
POLISHED No. 3	3P
POLISHED No. 4	4P
BUFFED No. 6	6P
BUFFED No. 7	7P
BUFFED No. 8	8P

PART NUMBER:

M304S TT GA #P
GA

WHERE "TT" = GAUGE THICKNESS
WHERE "#P" = FINISH IDENTIFIER

EG. 16 GAUGE SS SHEET 2B FINISH = M304S16GA
EG. 16 GAUGE SS SHEET No. 4 POLISHED = M304S16GA4P

GAUGE THICKNESS REFERENCE:

GAUGE	NOM. THICK. (IN)	THICKNESS RANGE (IN)
26	0.01875	0.0178 - 0.019
25	0.01875	0.0199 - 0.023
24	0.025125	0.0224 - 0.026
23	0.028125	0.0227 - 0.029
22	0.03125	0.030 - 0.032
21	0.034375	0.033 - 0.035
20	0.0375	0.036 - 0.040
19	0.04375	0.041 - 0.046
18	0.050	0.047 - 0.052
17	0.0625	0.053 - 0.058
16	0.0625	0.059 - 0.065
15	0.003125	0.066 - 0.072
14	0.078125	0.073 - 0.083
13	0.08375	0.084 - 0.098
12	0.109375	0.089 - 0.114
11	0.125	0.116 - 0.130
10	0.140625	0.131 - 0.145
9	0.15625	0.146 - 0.160
8	0.171875	0.161 - 0.176
7	0.1875	0.182 - 0.194
6	0.2031	0.194 - 0.212
5	0.2188	0.201 - 0.228
4	0.2344	0.225 - 0.243
3	0.2500	0.238 - 0.262
2	0.2656	0.254 - 0.278
1	0.2813	0.269 - 0.293
0	0.3125	0.301 - 0.325

RELEASED

2015 FEB 04
ECL 15.122 47

D	ADDED GAUGES 0-7	A/S	15.01.06
C	DEFINED FINISH OPTION (ZIN 08) AND EXAMPLE OF MATERIAL FINISH WITH FINISH OTHER THAN 2B (ZIN BS).	MB	17.09.20
B	REFORMAT DINC. ADD ASTM/ASME SPECS (ZIN DS-1). ADD GAUGE REF (ZB-1). REF PAR 08420A	CP	09.06.01
A	NEW ISSUE	DS	01.09.24
REV.	DESCRIPTION	BY	DATE
DART AEROSPACE LTD			
A	DRAWN	A/S	HAWKESBURY, ONTARIO, CANADA
	CHECKED		REV. D
	MFG. APPR.	M304S	SHEET 1 OF 1
	APPROVED		SCALE
	DE APPR.		NTS
	DATE	15.01.06	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M3045186A
 DATE: 18/10/22

PO / BATCH NO.: P0041169/5120288

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 144SF
 QUANTITY INSPECTED: 144SF
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.040"
 THICKNESS RECEIVED: 0.040"
 SHEET SIZE ORDERED: 4x8'
 SHEET SIZE RECEIVED: 4x8'

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<u>Y</u> <u>N</u>	
CORRECT FINISH	<u>Y</u> <u>N</u>	
CORROSION	<u>Y</u> <u>N</u>	
CORRECT GRAIN DIRECTION	<u>Y</u> <u>N</u>	
CORRECT MATERIAL PER M-DRAWING	<u>Y</u> <u>N</u>	<u>ASTM A240</u>
CORRECT THICKNESS	<u>Y</u> <u>N</u>	
PHOTO REQUIRED	<u>Y</u> <u>N</u>	
CORRECT REF # TO LINK CERT	<u>Y</u> <u>N</u>	<u>WT. 905E</u>
CORRECT MATERIAL IDENTIFICATION	<u>Y</u> <u>N</u>	
CORRECT M# ON THE MATERIAL	<u>Y</u> <u>N</u>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<u>Y</u> <u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	<u>Y</u> <u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/22</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

Union Drawn Steel II LP

1350 Burlington Street East, P.O. Box 98
 Hamilton, Ontario, Canada L8N 3A2
 Phone: (905) 547-4480; Fax: (905) 544-3832
 1-800-263-9965

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CERTIFICATE OF ANALYSIS CERTIFICAT D'ANALYSE

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DATE	04/02/18	CUSTOMER ORDER NO.	MON-57568	MILL ORDER NO.	266479-00
PRODUCT DESCRIPTION	NO. DE LA COMMANDE DU CLIENT			NO. DE LA MILL	
PRODUCT DESCRIPTION				BILL OF LADING	BON DE CONNAISSEMENT
L 27	FA20302116	YOUR ITEM # :			
1-3/4 RD	1018	20 FT 00			
COLD FINISHED STEEL BARS CARBON					
COLD DRAWN					
STANDARD AISI TOLERANCES					
C .15/.20 MN .60/.90 P .040MAX S .050MAX					
TRANSPORT BY TRUCK - PROTECT WITH TARP					
ASTM A108					

COUNTRY OF ORIGIN - CANADA
 HOT ROLL SOURCE : ARCELORMITTAL
 NAFTA CERTIFIED YES: X NO:

LADLE ANALYSIS/ANALYSE DE LA COUILLER A COULER

HEAT NUMBER	C131474	C.	.190	MN.	.760	P.	.004	S.	.023
		SI.	.220	CU.	.070	NI.	.050	CR.	.040
		CB.		V.	.002	MO.	.015	PB.	
		B.		AL.	.024	SN.	.004		

MECHANICAL PROPERTIES/PROPRIÉTÉS MÉCANIQUES

HEAT NUMBER C131474

YIELD STRENGTH LIMIT D'ÉLASTICITÉ	P.S.I. @ .2% OFFSET	ELONGATION (2 INCHES) ALLONGEMENT	%
TENSILE STRENGTH RESISTANCE A LA TRACTION	P.S.I.	REDUCTION OF AREA STRICITION	%

MAG TEST ROTO TEST ULTRA SONIC TEST

NO WELDING OR WELD REPAIR PERFORMED ON THIS MATERIAL
 THIS MATERIAL WAS NOT EXPOSED TO MERCURY DURING
 PROCESSING OR WHILE IN OUR POSSESSION.

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HAS BEEN TESTED IN ACCORDANCE
 WITH SPECIFICATION, AND THAT THE RESULTS ARE CORRECT AS CONTAINED IN THE
 RECORDS OF THE COMPANY.

PAR LES PRÉSENTEZ NOUS CERTIFIONS QUE LA MATERIE DÉCRITE A ÉTÉ TESTÉE
 CONFORMEMENT AUX SPECIFICATIONS ET QUE LES RÉSULTATS SONT CORRECTS, COMME
 INDIQUE DANS LES REGISTRES DE LA COMPAGNIE.

PER/PAR Dale S. M

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL	AISI 1018-1025 ROUND BAR
SPECIFICATION:	Mill-S-7097 OR ASTM A108
PART NUMBER	M1018-R DDDD DIA.
TOLERANCES	EG. 7/8" ROUND BAR = M1018-R0 875
PER ASTM A108 AS FOLLOWS:	
SIZE	TOLERANCE
1/2" TO 1 5/8" INCL.	+0.000/-0.002
OVER 1 5/8" TO 2 5/8" INCL.	+0.000/-0.003
OVER 2 5/8" TO 4 0/8" INCL.	+0.000/-0.004
OVER 4 0/8" TO 6 0/8" INCL	+0.000/-0.005
OVER 6 0/8" TO 8 0/8" INCL	+0.000/-0.006

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M1018R1.750
 DATE: 18/10/22

PO / BATCH NO.: P0041169/51.2019

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12ft
 QUANTITY INSPECTED: 12ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.750"
 THICKNESS RECEIVED: 1.750"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <u>(N)</u>	
CORRECT FINISH	Y <u>(N)</u>	
CORROSION	Y <u>(N)</u>	
CORRECT GRAIN DIRECTION	Y <u>(N)</u>	
CORRECT MATERIAL PER M-DRAWING	Y <u>(N)</u>	ASTM A108
CORRECT THICKNESS	Y <u>(N)</u>	
PHOTO REQUIRED	Y <u>(N)</u>	
CORRECT REF # TO LINK CERT	Y <u>(N)</u>	HT: C131474
CORRECT MATERIAL IDENTIFICATION	Y <u>(N)</u>	
CORRECT M# ON THE MATERIAL	Y <u>(N)</u>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/22</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



Métaux Solutions

L'alliage de qualité et de rapidité !

2625, Boul. Jacques-Cartier Est
Longueuil (Québec) J4N 1L7

info@metauxsolutions.com

T 450 641-3330

Ext : 1-800-967-2003

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

18 oct. 2018

DESCRIPTION OF MATERIAL

Heat No	Lot	Grade and Size of Material
8816081192	48 1	H13 TFA TO FIN 2.500 RD

MECHANICAL PROPERTIES

Quantity	Yield PSI	Tensile PSI	% Elong In.	% Red Area	Hardness	Impact
2119 LBS	0	0	0	0	BHN230	

CHMICAL PROPERTIES

C	MN	P	S	SI	NI	CR	V	W	MO	CU	CO	AL
0.380	0.380	0.026	0.008	1.100		5.100	0.940		1.280			
N	PB	SN										

NOTES

ASTM A681-08
MELTING PROCESS: EAF+LF+ESR
ULTRASONIC TEST OK ACCORDING TO SEP1921, (DEC.84) E/e
MATERIAL FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED

Country of Origin: China

ITEM 7: 1 X 72"

COMMANDÉ : 138483

REF : 41169

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.


Préparé par

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI H13 TOOL STEEL ROUND BAR

AISI H13

MT-H13-R [D,DDD]

WHERE "D,DDD" = DIAMETER IN INCHES

EG. 5/8" ROUND BAR = MT-H13-R0.625

REV	DESCRIPTION	DATE	BY	APPROVED
A	NEW ISSUE	17.09.20	SAC	WMA

6

7

4

1

2

5

C

B

A

DART AEROSPACE	
AISI H13 TOOL STEEL ROUND BAR	
DRAWING NO	MT-H13-R
DESIGN BY	SAC 26/09/2017
REVIEW BY	SAC 08/10/2017
CHECKED BY	VM 08/11/2017
ENG. APPROVED	DP 08/11/2017
QA APPROVED	WMA 11/11/2017
APPROVED	WMA 10/05/2017
DATE	20/09/2017
SCALE	1:1
UNITS	INCHES
WEIGHT	N/A
SHEET 1 OF 1	
THE DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE COPIED OR REPRODUCED IN WHOLE OR IN PART, OR OTHERWISE COMMUNICATED TO UNAUTHORIZED PERSONS, WITHOUT THE WRITTEN CONSENT OF DART AEROSPACE LTD.	

D

B

A

C

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-H13-R2.50s
 DATE: 18/11/06

PO / BATCH NO.: P0041164 S125028

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 64
 QUANTITY INSPECTED: 64
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2500 "
 THICKNESS RECEIVED: 2.50s "
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> <input type="checkbox"/> N	<u>H-13</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	<u>4T-8816081192 48 /</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>A1</u>	SIGNED OFF BY: _____
DATE: <u>18/11/06</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

Shipping Order

23/10/2018

METAUX SOLUTIONS INC
 2625 BOUL JACQUES CARTIER EST
 LONGUEUIL, QUEBEC
 J4N 1L7 Tel. : 450 641-3330

Order : 138483
 Reference : 41169
 Bid : 29194
 Ship : PICK UP / PICK UP

Customer : 6323336

Ship To

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Same

Tel. : 1 613 632-3336

Item No.	Description	Qty	Qty. Delive	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
ASQ412	ALUM SQU 4-1/2" 6061-T6 2 X 6' ***** HT; 201818065	12	(12)	12

ship journey collect

JP



Shipping : _____
 Package No : _____

Ref. : _____

Merchandise Received: _____

Service Center Metals

5850 Quality Way
Prince George, VA 23875

Can Do.

CERTIFIED INSPECTION REPORT AND TEST RESULTS FOR EXTRUDED PRODUCTS



Made In
the U.S.A.

BILL TO		MANIFEST NUMBER	DATE NUMBER	DATE OF SHIPMENT	CERTIFICATION	
SHIP TO	CUSTOMER PO	CUSTOMER PO	ALLOY/TEMPER	SALESPERSON	SPECIFICATION	
	5400417518	6061-T6511	MSQ0722	9/28/2018	ASTM-B221-14 Stencil/Cont	
Quantity Certified	2,304 lbs	8 pcs	MSQ 4,500 + .034/-0	D Schroeder (Canada)	SAEAMS-QQA-200/8A Stabilized	

We hereby certify that the material covered by this report has been inspected in accordance with the most recent certification revision, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown. Items produced and certified as 6061-T6511 also meet the requirements of 6061-T6.

All aluminum products supplied by Service Center Metals, LLC contain no functional mercury. Neither mercury nor its compounds are used in the manufacture of aluminum products at our facility. Furthermore, aluminum products supplied by Service Center Metals have not, to the best of our knowledge, contacted any source of mercury.

SCM is ISO 9001-2015 certified

This product is RoHS-2, REACH, and DFARS compliant

Mechanical Properties		Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation	
Tests	Lot No.		min	max	min	max
1	201818065	9/23/18	52.80	52.80	48.30	16.10

Chemical Composition for Aluminum Alloy 6061

Cast #	Lot No.	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Al	Others	Each	Total	Melt Source
001M180917A	201818065	6061	0.73	0.37	0.31	0.11	0.88	0.10	0.07	0.03	97.41	0.05	0.15	United States of America
092201801	201818065	6061	0.71	0.34	0.30	0.10	0.87	0.08	0.06	0.03	97.51	0.05	0.15	United States of America

SCM products are melted and extruded in the USA

Print Date: 9/28/2018

Calvin J. Wiggins, Director of Quality & Technical Services

Rev 3/14/2016

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION: QQ-A-225/8 OR AMS-QQA-225/8 (OR AMS 4117/4/28/415/4116)
OR QQ-A-200/8 OR AMS-QQA-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B224

△

PART NUMBER:

M6061T6B	T.TTT	X	WW.WWW
	THICK	WIDTH	

WHERE "T.TTT" = THICKNESS IN INCHES
"WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

RELEASED
2009-05-02
MW

B	REMOVE DRAWING 25011 OPTION REFORMAT NOTES ADD	CP	09/07/13
A	NEW ISSUE	DS	01/06/06
REV.	DESCRIPTION	BY	DATE
DESIGN	OS		
DRAWN	AS	DRAWING NO.	HAWKESBURY, ONTARIO, CANADA
CHECKED	AS	REV. B	SHEET 1 OF 1
MFG. APPR.		TITLE	SCALE
APPROVED		M6061T6B	NTS
DE APPR.		6061-T6 BAR	
DATE	09.07.13	Copyright © 2001 by DART AEROSPACE LTD	

D	1	2	3	4	5	6	7	8
C								
B								
A								

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6B4.500x4.500
 DATE: 18/10/26

PO / BATCH NO.: P0041169/S121736

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12ft
 QUANTITY INSPECTED: 12ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 4.500"
 THICKNESS RECEIVED: 4.500"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT GRAIN DIRECTION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	<u>AMS- QQ - A-202/8</u>
CORRECT THICKNESS	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT REF # TO LINK CERT	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	<u>HT: 201818065</u>
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/26</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in